

What is Claimed is:

1. In a system including a plurality of PCI segments, with each said PCI segment comprising one or more PCI cards mounted in slots on a PCI chassis, a bridge for coupling PCI segments, said bridge comprising:
 - a board; and
 - a plurality of connectors mounted on said board for electrically connecting said board to a first and a second PCI segment on a backplane of the PCI chassis.
2. A bridge in accordance with claim 1, wherein:
 - said plurality of connectors are J1 and J2 connectors.
3. A bridge in accordance with claim 1, wherein:
 - said board has four connectors for connection to the P1 and P2 groups of pins of said first and second PCI segments.
4. A bridge in accordance with claim 1, further comprising:
 - a processor mounted on said board and electrically connected to said plurality of

connectors, wherein said processor logically connects said first and second PCI segments with a transparent bridge.

5. A bridge in accordance with claim 1, further comprising:

a processor mounted on said board and electrically connected to said plurality of connectors, wherein said processor logically connects said first and second PCI segments with a non-transparent bridge.

6. A bridge in accordance with claim 1, wherein:

said board electrically connects to said first and said second PCI segments in adjacent slots on the PCI chassis.

7. A bridge in accordance with claim 1, wherein:

said board electrically connects to said first and said second PCI segments in non-adjacent slots on the PCI chassis.

8. A bridge in accordance with claim 1, wherein:

said board is configured to mount on said backplane of the PCI chassis in the slot occupied by a transition card.

1 9. A bridge in accordance with claim 1, wherein:

2 said plurality of connectors connect only to groups of P1 and P2 pins.

1 10. In a system including at least three PCI segments, with each PCI segment
2 comprising one or more PCI cards mounted in slots on a PCI chassis, a bridge for
3 connecting to PCI segments, said bridge comprising:

4 a first board;

5 a plurality of first board connectors mounted on said first board for electrically
6 connecting said first board to a first and a second PCI segment on the backplane of the
7 PCI chassis;

8 a second board;

9 a plurality of second board connectors mounted on said second board for
10 electrically connecting said second board to said second and a third PCI segment on the
11 backplane of the PCI chassis.

1 11. A bridge in accordance with claim 10, further comprising:

2 a first processor mounted on said first board and electrically connected to said
3 plurality of first board connectors;

4 a second processor mounted on said second board and electrically connected to
5 said plurality of second board connectors; and

6 wherein said first processor and said second processor logically connect said first,
7 said second, and said third PCI segments with a transparent bridge.

1 12. A bridge in accordance with claim 10, further comprising:

2 a first processor mounted on said first board and electrically connected to said
3 plurality of first board connectors;

4 a second processor mounted on said second board and electrically connected to
5 said plurality of second board connectors; and

6 wherein said first processor and said second processor logically connect said first,
7 said second, and said third PCI segments with a non-transparent bridge.

1 13. A bridge in accordance with claim 10, wherein:

2 said first board and said second board are identical; and

3 said first processor and said second processor are identical.

1 14. A method of bridging a plurality of PCI segments mounted on a PCI chassis

2 without occupying a front side slot of said PCI chassis, comprising:

connecting a first PCI segment slot and a second PCI segment slot with a first PCI
bridge card; and
locating said PCI bridge card along a backplane.

15. A method in accordance with claim 14, further comprising:
mounting said PCI bridge card in a notch between the PCI chassis and a transition
card.

16. A method in accordance with claim 14, further comprising:
connecting a second PCI segment slot and a third PCI segment slot with a second
PCI bridge card; and
locating said PCI bridge card along said backplane.

17. A method in accordance with claim 16, wherein:
bridging said first, said second, and said third PCI segments with said first and said
second PCI bridge cards is performed with a transparent bridge.

18. A method in accordance with claim 16, wherein:
bridging said first, said second, and said third PCI segments with said first and said

3 second PCI bridge cards is performed with a non-transparent bridge.

1 19. A method of bridging PCI segments on a PCI chassis, comprising:

2 connecting a pair of adjacent PCI segments with a PCI bridge card across the

3 Groups of P1 and P2 pins on the backplane of a pair of adjacent PCI slots; and

4 orienting said PCI bridge card substantially parallel to the PCI chassis .

1 20. A method in accordance with claim 19, further comprising:

2 installing transition cards on the backplane of said pair of adjacent PCI slots
3 substantially perpendicular to the PCI chassis.